Paper No. 29

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

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Ex parte CAROL E. EBERHARDT

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Appeal No. 2000-0897
Application No. 08/570,373

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ON BRIEF

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Before ABRAMS, STAAB, and NASE, *Administrative Patent Judges*.

STAAB, *Administrative Patent Judge*.

DECISION ON APPEAL

This is a decision on an appeal from the final rejection of claims 1, 3-9, 11-15, 22 and 23, all the claims pending in this application.

The claims on appeal are drawn to a stented bioprosthetic heart valve, and are reproduced in the appendix to appellant's brief.

The references applied in the final rejection are:

Angell et al. (Angell)	4,035,849	Jul. 19, 1977
Carpentier et al. (Carpentier)	4,106,129	Aug. 15, 1978
Wain	GB 2 136 533 A	Sep. 19, 1984

(published Great Britain Patent Application)

The claims on appeal stand finally rejection under 35 U.S.C. § 103 as unpatentable over the following combinations of references:

(1) Claims 1, 3-5, 8, 9, 11-13, 22 and 23 Carpentier in view of Wain;[1]

(2) Claims 6, 7, 14 and 15, Carpentier in view of Wain and Angell.

On page 2 of the brief, appellant expressly and unequivocally states that the claims stand or fall together. Therefore, we select claim 1 as the representative claim and will decide this appeal on the basis of that claim alone.

Claim 1 is drawn to a bioprosthetic heart valve comprising a stent having an annular frame defined by a

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[1]Claims 22 and 23 appear to have been inadvertently not included in the statement of this rejection in the examiner's answer.

support rail (element 36 in Figure 7), and a biological valve member (element 22 in Figure 7) defining a tubular wall and a plurality of leaflets. The claim limitation that is the focus of this appeal is the requirement that the biological valve member extends "directly underneath, but not . . . around, the support rail."

The examiner found (answer, page 3) that "[t]he difference between Carpentier and the claimed invention is the placement of the biological valve member to extend to but not around the support rail." The examiner also found (answer, page 3) that the biological valve member of Wain "extends to but not around the support rail to permit a larger valve orifice." Based on these findings, the examiner concluded that it would have been obvious to one of ordinary skill in the art "to have located the biological valve member of Carpentier to extend to but not around the support rail, because this placement would have enabled the Carpentier device to form a larger valve orifice as taught by GB '533 (Wain)." Implicit in the above is the examiner's position that the modified Carpentier valve member would correspond to the claimed heart valve in all respects.

Appellant does not appear to dispute the examiner's determination that it would have been obvious to locate the biological valve member of Carpentier so that it extends to but not around the support rail in view of Wain's teachings. Appellant contends, however, that the claimed subject matter would not result even when Carpentier is so modified. In particular, appellant asserts that neither of the applied references teaches or suggests a biological valve member that extends "directly underneath" the support rail. More specifically, appellant argues (brief, pages 2-3) that

> each of the cited references discloses a structure in which a mandatory structural member other than the biological tissue is located directly underneath the support rail. The combined teachings of the references would, therefore, produce a structure which also had a mandatory structural member other than the biological tissue located directly underneath the support rail. The claimed invention requires the exact opposite: the claims positively recite that the tissue is directly underneath the support rail.
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> . . . . What the Examiner fails to appreciate is that Wain's tissue is *already* displaced from the claimed position, with no suggestion at all that it could be located directly beneath the rail . . . . [The tissue of Wain is] displaced *laterally* from the position directly underneath the rail regardless of the longitudinal extent. Thus, when the person of ordinary skill looks at what Wain and Carpentier *et*

> *al*. teach when each is read as a whole, there is simply no suggestion that the tissue could be located anyplace other than positioned to the inside of the rail, as shown in each reference, and extending longitudinally "to but not around the support rail" as shown by Wain.

Of critical importance in this appeal is the meaning of the words "directly underneath" found in the last line of claim 1. It is well settled that during examination proceedings, claims are to be given their broadest reasonable interpretation, and that limitations are not to be read into them from the specification. *In re Hyatt,* 211 F.3d 1367, 1372, 54 USPQ2d 1664, 1667 (Fed. Cir. 2000), *In re Van Geuns*, 988 F.2d 1181, 1184, 26 USPQ2d 1057, 1059 (Fed. Cir. 1993). Applying these principles to the present case, we conclude that the broadest reasonable interpretation of the claim limitation calling for the biological valve member to extend "directly underneath" the support wire is that at least a portion of the valve member lies adjacent to and below the support wire. We do *not* view this claim language as requiring (1) that the valve member is the *only* valve element located under the support rail, or (2) that the valve member is *centered* on the support rail, and/or (3) that a portion of the

valve member *may not extend laterally beyond* the support rail. In particular with respect to (3), it would appear from the discussion on page 9, lines 11-22, of appellant's specification that appellant's tubular wall 20 (i.e., biological valve member) *necessarily* extends laterally beyond the support wire, at least to some extent.

Looking now at the mitral valve illustrated in Figure 10 of Carpentier, we note that the valve includes a wire frame 16 that corresponds to the claimed support rail, and graft tissue 12 that corresponds to the claimed biological valve member. As can be seen upon inspection of the upper left corner of Figure 10, a portion of tissue 12 extends laterally to the side and partially around wire 16, while another portion of tissue 12 extends *adjacent to and below* wire 16. Based on these findings and on our interpretation of the meaning of the term "directly underneath," we conclude that the biological tissue 12 of Carpentier's Figure 10 mitral valve extends "directly underneath" the wire support 16 within the broad meaning of that term. Hence, when Carpentier's Figure 10 valve is modified in the manner proposed by the examiner,

namely by locating the member to extend to but not around the support wire 16,[2] Carpentier's modified tissue would provide a complete response to the requirement of claim 1 that the biological valve member extends "directly underneath, but not extending around, the support rail."

In light of the foregoing, the standing rejection of claim 1 as being unpatentable over Carpentier in view of Wain is sustained.

[2]We reiterate that appellant does not appear to dispute the examiner's position that this modification of Carpentier would have been obvious in view of Wain's teachings.

In that appellant has stated that all the claims stand or fall together, the standing rejection of claims 3-5, 8, 9, 11-13, 22 and 23 as being unpatentable over Carpentier in view of Wain, and the standing rejection of claims 6, 7, 14 and 15 as being unpatentable over Carpentier in view of Wain and Angell, are also sustained.

The decision of the examiner is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

AFFIRMED

NEAL E. ABRAMS)
Administrative Patent Judge)
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) BOARD OF PATENT
LAWRENCE J. STAAB) APPEALS AND
Administrative Patent Judge) INTERFERENCES
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JEFFREY V. NASE)
Administrative Patent Judge)

LJS:hh

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